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# Headlines Highlights for RA's Tablet - TUESDAY, January 14, 2014

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## Charleston Gazette

### First zones given go-ahead to start flushing

By [Mackenzie Mays](#)

By [Rachel Molenda](#)

CHARLESTON, W.Va. -- West Virginia American Water on Monday began lifting the "do-not-use" water advisory issued to 300,000 of its customers on Thursday.

Customers in downtown Charleston -- in areas bordered by the Elk River, the Kanawha River and the 35th St. Bridge -- were given the go-ahead on Monday afternoon to begin flushing their systems.

By late Monday afternoon, Kanawha City and some areas across the Kanawha River from the neighborhood were added. South Charleston residents were also told they could flush their pipes

early Monday evening. Customers in North Charleston, the West Side and along Sissonville Drive were permitted to flush their pipes Monday night. The Edgewood area was added at 6 a.m. and the Southridge/Southside area was added at 7:28 a.m. on Tuesday.

As of early Tuesday, the advisory had been lifted for about 28,500 customers, according to the water company.

The do-not-use advisory remains in effect for customers in the rest of Kanawha County, as well as Putnam, Boone, Jackson, Lincoln, Roane, Logan and Clay counties. The Culloden area of Cabell County is also still under the advisory.

When areas are given the go-ahead, customers will be asked to flush their home plumbing systems, which will require at least 15 minutes of flushing faucets, state officials said at a press conference Monday afternoon.

Hospitals in the Charleston area were OK'd to begin the flushing process at about 10 a.m. Monday morning.

Customers served by the Lincoln County public service district have been approved to begin the flushing process, as well, according to state Homeland Security director Jimmy Gianato.

Customers can see their zone's status by entering their address into the online map at [www.westvirginiaamwater.com](http://www.westvirginiaamwater.com), or by calling 855-390-4569. Once the map pinpoints an address, customers can zoom out to see their home's status. The map will identify areas that can start flushing as blue, and areas where they shouldn't start yet as red.

State officials warned customers to not begin the flushing process until their zone's ban is lifted to prevent overworking the water system. If people begin flushing their systems too early -- before their area is coded by blue on the online map -- it will extend recovery time, said Jeff McIntyre, president of West Virginia American Water Co.

Officials previously said they did not know much about the chemical -- Crude MCHM -- from its toxicity levels to know how to test for them. Special tests were developed to track the chemical's levels.

When asked why customers should have confidence in the safety of their tap water, McIntyre touted the company's filtration system, describing the water treatment plant as "top notch." After the press conference, McIntyre said he wasn't concerned about other substances that might infiltrate the company's system.

"We've had diesel spills and fuel spills, and this treatment process can handle those," McIntyre said. "This particular chemical was just so strong and aggressive to our system that it overwhelmed the absorptive capacity of our system."

McIntyre said he hasn't yet met with his team to review historic risk assessment information. To his knowledge, the company asks for information from tenants and property owners along the

Elk River every two years.

U.S. Rep. Nick Rahall, D-W.Va., said after the news conference that it was too early to say if there would be any legislative changes from Congress in response to the chemical leak.

"My committee ... will be exercising our oversight authority, but in due time," said Rahall, the ranking Democrat on the House Transportation and Infrastructure Committee. "We want to look at what happened, how we can keep it from happening again and if, God forbid, it were to happen again, how can our response be better than it was this time?"

Despite having received Freedom Industries' "Tier 2" form last year, government officials at both the state and county levels did not have a plan to address last week's spill.

Randy Huffman, secretary of the state Department of Environmental Protection, said his agency is now developing a statewide chemical inventory to keep track of facilities like Freedom Industries that don't process chemicals, but rather store them.

"At the governor's request, we're developing some proposals as to how we're going to more properly regulate these facilities in order to minimize the risk of a spill," Huffman said.

McIntyre said testing teams will continue to monitor the chemical's levels, not only in the Elk River, but also the Kanawha and Ohio rivers. The company's Huntington treatment plant is preparing for potential effects of the leak as it moves downstream, he said.

Another chemical spill occurred along the Ohio River in Belpre, Ohio, last week. That spill was 120 miles upstream from the Huntington plant, according to McIntyre.

Huffman said sewer and sanitary boards throughout the affected area have been made aware of the flushing and are preparing for an increase in flow through those systems.

Customers with questions about septic tanks should contact their local sanitary boards or health departments with those questions, Huffman said.

Those who need assistance flushing their systems are directed to call their local emergency management offices.

Fourteen people were hospitalized with non-life-threatening symptoms that could be related to the chemical leak, officials said.

Crude MCHM, a coal-processing chemical that is actually 4-methylcyclohexanemethanol, leaked from a Freedom Industries facility into the Elk River on Thursday morning. Residents in parts of nine counties have been advised not to drink water or use the water in any capacity except for flushing toilets and fighting fires since then.

Officials said that more than 90 percent of tests show the MCHM levels are now "well below the health risk level."

But a timeline for when the water will be usable is still undetermined, McIntyre said.

"It's hard to predict because it depends on the behavior of the people. If people don't follow the instructions ... it will go longer," he said. "It could still be days before we have the entire system cleared. It's a very large, complex system."

The black licorice odor associated with the chemical may still be prevalent, but does not mean people should flush past the recommended amount, officials said.

State Superintendent of Schools Jim Phares said that schools will reopen when it is confirmed that all systems are safe, and that there will be no rush to get back to class.

"We want to add assurances that every child, all children, will be safe when they return to school," Phares said.

Restaurants in Charleston began reopening their doors to customers upon news of the end of the do-not-use water advisory Monday afternoon.

Meena Anada, co-owner of Little India on East Washington Street, said she hired a contractor to flush out the restaurant's water pipes. Anada said she would still serve customers bottled water until she felt comfortable using the faucet again.

An employee at Pies and Pints on Capitol Street said the restaurant was busy with customers Monday night. The restaurant flushed out its water pipes early Monday afternoon and is serving water from the faucets.

At the Charleston Town Center Mall, marketing director Lisa McCracken said all restaurants but three would reopen Tuesday morning. Those three restaurants, Dairy Queen, Five Guys Burgers and Fries and Sakkio Japan, would be inspected by the Kanawha Health Department sometime Tuesday.

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# Charleston Gazette

## How do they know water's safe at 1 ppm?

Officials still silent on how they arrived at chemical limit

By Ken Ward Jr.

CHARLESTON, W.Va. -- Tomblin administration officials continued on Monday to decline to provide detailed answers why they think 1 part per million of Crude MCHM is safe for West Virginians to drink.

Federal agencies also refused to explain how they calculated that figure in the absence of any real regulatory guidelines or published health standards for the material, also known as 4-methylcyclohexanemethanol.

A Ph.D. chemist who works with the Environmental Defense Fund wrote on his organization's blog that West Virginia officials are trusting "shaky science" in their "rush to restore water service" to 300,000 residents in a nine-county region.

Richard Denison wrote that officials "made significant leaps in their calculation of a 'safe' exposure level -- including assumptions that deviate from generally accepted practices."

"As a result, these estimates fail to adequately account for either acute or chronic effects from ongoing exposure to water contaminated at the 1 ppm level," Denison wrote. "At a bare minimum, the public deserves to know a lot more about the calculations behind officials' insistence that a 1 ppm level in drinking water is safe."

Tomblin administration officials have emphasized that water samples in the last two days have begun to more consistently show far less than 1 part per million of MCHM in drinking water from West Virginia American Water's Elk River treatment plan. Some samples, they note, are coming back with none of the chemical at all being detected.

"The numbers we have today look good," Tomblin said at a noon briefing Monday.

Top Tomblin aides continue to point to the U.S. Centers for Disease Control and Prevention, which, along with the federal Agency for Toxic Substances and Disease Control, came up with the figure 1 part per million.

When asked for more information about where the number came from, Department of Health and Human Resources Secretary Karen Bowling pointed to the "material safety data sheet," or MSDS, from Eastman, the maker of the chemical that leaked.

Bowling, though, downplayed the fact that there is precious little toxicological data and few -- if any -- public and peer-reviewed studies of what the chemical would do to humans if ingested.

"It's like any chemical that's out there," Bowling said. "There are many chemicals of which we don't have all the information. There's been no indication that what we're doing is improper."

State officials have told the Gazette to ask the CDC for more information. But on Monday, the CDC referred questions to West Virginia American Water.

Late last week, Dr. Letitia Tierney, commissioner for DHHR's Bureau for Public Health, said

that the state's announced limit was based on a paper from 1990 by Eastman that was never published in publicly available journals.

That study, she said, was the basis for the median lethal dose, or LD50, listed on an Eastman MSDS that's been circulated by local emergency responders, health officials and the media.

On that MSDS, the LD50 for Crude MCHM is listed as 825 milligrams per kilogram. This means that when tested on rats an 825 milligram dose per kilogram of body weight was enough to kill half the rats.

Here's how Tierney said CDC experts took that LD50 and came up with the 1-part-per-million figure that West Virginia officials are now citing as a safe level in local water:

"The experts then took this number and calculated the uncertainty factors," she wrote. "In this situation there were two. The first uncertainty factor was translating these results from rats to humans. The second uncertainty factor took into account sensitive populations. This includes the elderly, the sick, the immuno-compromised and children, amongst others.

"Uncertainty factors range from 5 to 10 percent," she wrote. "Given the dearth of data and an abundance of caution, both uncertainty factors were rated at 10 percent."

This, Tierney explained, changed the level that would cause death to 8.25 milligrams per kilogram of body weight.

LD50 figures, though, consider only death. They would tell officials nothing about what levels at which chemical exposure would cause other health effects, even serious ones. To address this, they changed the figure to 1 milligram per kilogram of body weight, which is equal to 1 part per million.

In his blog post, Denison took issue with two things that government officials did in putting together their number.

First, he wrote, the tenfold uncertainty factors should not have been applied to the LD50 value. In standard risk assessment, Denison wrote, those factors would instead be applied to something called the "no observable adverse effect level," or NOAEL, or, if that's not available, the Lowest Observable Adverse Effect, or LOAE.

"That is the dose at which no effect of a chemical exposure is observed," Denison wrote. "It doesn't take a risk assessor to recognize that the dose at which no effect is seen is going to typically be far, far lower than the dose that outright kills half of the exposed subjects."

Denison said that by using the LD50, they started out with the wrong value.

"No doubt they did so because the values they should have used -- the NOAEL or the LOAEL -- are not available for this chemical," Denison wrote. "But that's no excuse for not compensating for this major problem, at the very least through application of an additional large uncertainty

factor."

Second, Denison wrote, officials assumed without any basis that any nonlethal effects of the chemical would occur at low doses that were at most 8.25-fold lower than the lethal dose that would kill half of the exposed subjects.

"This assumption can only have been pulled out of thin air," Denison wrote. "Put aside the convenience of selecting a factor that allowed a nice round number of 1 ppm to be set as the safe level.

"On what possible basis could it be assumed that the dose of the chemical that would, for example, be moderately toxic even in the short term to the liver or kidney, be only about one-eighth the dose that would kill someone outright in just 24 hours? Many health effects of chemicals occur at doses that are orders of magnitude lower than the lethal dose."

Denison concluded, "Now, let me be clear. I am not saying that the level of 1 ppm is unsafe.

"I am saying that we have no way of knowing whether or not it is safe. The data needed to make that assessment simply do not exist for this chemical."

*Staff writers David Gutman and Rachel Molenda contributed to this report.*

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# State Impact Pennsylvania

## Pa. DEP seeks input on overhaul of drilling regulations

By Katie Colaneri

Five years into Pennsylvania's shale gas boom, the state is overhauling environmental regulations for drillers and changing the way the industry operates above ground.

A public hearing Monday night in Williamsport, Lycoming County set drillers, who argued the rules would go too far, against environmentalists who say the Department of Environmental Protection did not go far enough.

"I understand they're walking a fine line. It's a hard job for an agency," said Nadia Steinzor, a New York-based organizer with the environmental group Earthworks. "You can't satisfy everybody, but they know enough now."

The rules proposed by the state Department of Environmental Protection would set new standards for running temporary pipelines, dealing with spills and storing wastes. Many of the new requirements were set by the state's drilling law, Act 13 and will update Chapter 78 of the

state code. [You can read our guide to the proposed regulations here.](#)

Steinzor told state regulators she's disappointed they did not ban drillers from burying solid waste, which is not considered hazardous under federal or state laws.

"They certainly shouldn't be left behind in the ground or in open pits in people's backyards," Steinzor said. "It's just unacceptable and it's not regulation."

Drillers would also be required to search for abandoned wells within 1,000 feet of the path of the well bore. The DEP says it would help build a database of the hundreds of thousands of old wells that have not been plugged and [can become pathways for pollution.](#)

Companies would be responsible for plugging old wells if they are impacted during fracking. John Augustine with the Marcellus Shale Coalition, an industry trade group, argued drillers shouldn't be held responsible for that.

"That's a standard that other industries aren't being held to and it's quite frankly unfair to hold oil and gas to that standard," said Augustine, who also criticized Pennsylvania's "complex regulatory environment" for putting the economic benefits of drilling at risk.

Act 13 also required the DEP to consider impacts to public resources like parks and historic sites. However, that section of the law, which also dealt with the DEP's ability to waive setbacks for streams and wetlands, was recently [struck down by the state Supreme Court.](#)

Now DEP's Deputy Secretary for Oil and Gas Management says the agency no longer has the authority to add protective conditions for those sensitive areas.

"The public resource provisions that were new to Act 13 get into things like recreation and aesthetics that we just don't traditionally regulate and I think it's going to be a benefit to Pennsylvanians when we are able to finalize the rule, provided of course that the Supreme Court actually reverses its decision where it actually struck down those provisions as unconstitutional," Perry said after the hearing.

"I think they made a mistake."

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# Washington Post

[For psychologists who tend to federal employees, there's a lot to work through](#)

**By Emily Wax-Thibodeaux**

Over casual lunch conversations in downtown Washington and on formal workplace surveys,



federal workers make it clear: They are stressed out, depressed and angst-ridden.

The past few years, after all, have been what a therapist might call emotionally draining: pay freezes, furloughs, sequester cuts. All of which culminated in what therapists might term a total dysfunctional meltdown: October's 16-day government shutdown.

That's why the nation's nearly 2 million federal workers are the subject of both fascination and concern for government therapists, also known as industrial organization psychologists or IO's, some of whom recently spoke to local members of Congress on a panel about the feelings of low self-esteem and existential brooding that afflicted some federal workers after the shutdown.

"They feel betrayed, like a family member or friend made them a promise for stable work and then turned on them," said David Costanza, who directs the doctoral program in IO psychology at George Washington University and works with several government agencies. "Every organization has a culture, just like a family does. How they deal with conflict, choose new members and evolve is at the center of our work."

Whether it's inside the secretive offices of the National Security Agency, on a forward operating military base in Afghanistan, or with a group of astronauts in outer space, these psychologists essentially offer group therapy for the federal workplace. The government psychologists work with agencies as varied as the Department of Energy, the Centers for Disease Control and Prevention and the Department of Homeland Security. They are modern practitioners of a branch of psychology that emerged during World War I in response to rapid deployment of troops to extremely high-stress situations new to modern combat.

They address moments of crisis, helping federal employees tackle guilt and other feelings experienced by those who make life-and-death decisions, such as trauma surgeons in the field and airline cockpit crews whose performance is regulated by the government.

The therapists also help employees grapple with long-term challenges. One of the most dramatic examples is unfolding at NASA, where government therapists are being asked to help with a three-year round-trip mission to Mars tentatively proposed for the early 2030s. In the most extreme example of a business trip, the small group of astronauts would spend nearly half the voyage in flight and the rest conducting research on the planet's surface.

That's a lot of together-time. How will everyone get along? What if a dispute breaks out? Or the isolation wears on them?

"And you thought you spent a lot of time at work. Those astronauts will be cooped up together for years, and if members of a team don't have a way to talk out their problems, and there's nowhere to escape to, no outside boss to intervene, conflicts can have dire consequences," said Eduardo Salas, who is leading the team of psychologists working with NASA. "People can die. We can help."

An expert on teamwork in confined spaces such as submarines, Salas has been interviewing astronauts from various countries about what factors increase their stress and what helps them

decompress after a long day. In an effort to reduce suspicion and tension among the Mars astronauts, he is involved in developing a software application that would identify for the entire team mistakes that individuals make in their work. That way, he said, “everyone feels like they are in it together and they want to help their buddies, and resentments and small disagreements won’t fester.”

Salas expects that he will help select and train the team for the Mars mission, what he describes as a “three-year team dynamic that is relatively untested.”

“Technology made the study of personalities at work more urgent,” Costanza said. “You couldn’t just put anyone in a blimp, plane or tank, where teamwork and steady temperament during extreme trauma became important.”

Much of workplace therapy is based on the findings of Hugo Münsterberg, considered the father of the field, who cautioned managers to be concerned with “all the questions of the mind . . . like fatigue, monotony, interest, learning, work satisfaction, and rewards.” Since his groundbreaking work in the late 19th and early 20th century, the field has expanded across private industry as well as the public sector.

At the FBI, three staff IO psychologists helped revamp the agency’s promotion process after the attacks of Sept. 11, 2001. They added new ways of identifying qualified managers, such as using job simulations, and encouraged the bureau to put greater emphasis on leadership ability rather than expertise in a particular field, according to Amy Grubb, senior IO psychologist at the bureau.

“Big-bang events like 9-11 or any kind of crisis are very traumatic, both in the workplace and in the country. We wanted agency leaders to be leaning forward, as opposed to being static,” she said.

More recently, the FBI psychologists studied the connection between the performance of bosses and the effectiveness of their agents and other subordinates. The IOs found that managers who were highly rated by their employees, such as being open to competing opinions, had teams that made more arrests and provided better intelligence, Grubb said.

One of the field’s biggest achievements has been to help change a “suck it up” attitude in the military and intelligence agencies toward post-traumatic stress disorder (PTSD). Twenty years ago, it wasn’t recognized as a severe illness. Victims were often deemed to be crazy.

Psychologists such as Salas also developed a now well-known strategy called crew resource management or CRM, which has been credited with helping to prevent accidents in aviation and other high-risk professions. The approach relies on the traditional therapeutic technique of “talking everything out,” Salas said.

In the past, airline pilots would rarely tell crew members if they were sick or unable to function because of fatigue or personal reasons. But after the training, one pilot who was suffering from vertigo was able to ask his team to take over without embarrassment or shame.

The new emphasis on honest communication grew out of an investigation by the National Transportation Safety Board into the 1978 crash of a United Airlines flight in Oregon, which killed 10 people. According to reports, the captain focused on a problem with the landing gear for an hour, ignoring hints from the first officer and the flight engineer about their dwindling fuel supply.

About 60 percent of fatal airline crashes are attributed to such mistakes in the cockpit. Investigators looking into the July crash of an Asiana Airlines crash at San Francisco International Airport concluded that the crew probably did not use the CRM approach that is now common among American airline crews and may be helping to reduce crashes.

"This shows that our work really can have a powerful impact and save lives," Salas said, "even if not many people know that government therapists exist."

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# CNN

## With a trickle, not a flood, West Virginia water restrictions are ending

**By Matt Smith and Michael Pearson, CNN**

**updated 6:00 AM EST, Tue January 14, 2014**

(CNN) -- Sandra Fisher heard the sound of running water in her Charleston, West Virginia, home on Monday for the first time in four days after a chemical leak fouled water supplies for hundreds of thousands of people.

Fisher was one of the first 5,000 customers, many of them large commercial users, who were told they could start flushing out their pipes after thousands of gallons of 4-methylcyclohexane methanol poured out of from a storage facility on the nearby Elk River on Thursday. The licorice-scented chemical, typically used to clean coal, got into Charleston's water supply, resulting in 300,000 people being told not to drink, cook or wash with water from their own taps.

"I knew a licorice smell in the air was something that couldn't be good," Fisher told CNN. "I didn't think it was candy."

The West Virginia American Water Co. said it had lifted the do-not-use order for 26,000 customers by the end of the day. Flushing the final traces of contaminants from home and business water pipes could take days, said Jeff McIntyre, the water company's president. And officials asked that water customers not rush to turn on their faucets until told to do so, for fear

that demand could cause pressure in the lines to falter, introducing yet more problems.

"It's certainly going to go into tomorrow, and I'm not sure how much longer," Randy Huffman, the head of the state Department of Environmental Protection, told CNN's The Situation Room.

See West Virginia American Water Co. status map

The state put water restrictions into effect Thursday after discovering that about 7,500 gallons of the chemical, known as MCHM, had leaked into the Elk River just above a drinking water plant. Authorities told residents in nine West Virginia counties to stop using their water for everything except flushing toilets, and to watch for symptoms of exposure such as skin irritation, nausea, vomiting or wheezing.

The spill left Charleston residents scrambling for bottled water to wash their hands, brush their teeth and cook. Without safe water, schools and many businesses were forced to close. The U.S. Department of Homeland Security and the water company trucked in bottled water, and police, firefighters and National Guard troops helped distribute it around Charleston, where resident Jen Williamson reported that most stores had been restocked by Monday.

"Disposable plates and utensils, etc. are in short supply but some local churches are giving those away," Williamson wrote in an e-mail to CNN. "We are definitely trying to prevent dirty dishes but they are stacking up quickly. The problem is that when they say the water is fine to drink, do we believe them?"

She's not alone in her doubts.

"I'm not going to drink it for a while," Charleston resident Kate Long said. And Fisher said, "I will be concerned probably for the rest of the time that I live here."

But Jerry Dawson, who works in the first zone allowed to begin using water, said he's sure county, state and water company officials have done all they need to do to ensure water safety.

"I'm tickled to death to get my water back," he said Monday afternoon.

By Monday morning, water tests showed that levels of the chemical detected at water intakes had declined to well under the 1 part per million safety standard for consumption. Finished water showed even less of the contaminant, but people would probably still smell the chemical in their water even after flushing, Huffman said.

Some residents have complained of irritation of the skin, throat, chest and stomach, Dr. Rahul Gupta of the Kanawha-Charleston Health Department said over the weekend. As of Monday morning, hospitals had seen 231 people for complaints related to contaminated water, admitting 14 of them, said Karen Bowling, secretary of the state's Department of Health and Human Resources. But calls to poison control centers had been declining, she said.

But the unknowns made residents anxious.

"They don't even know what the health risks are," Stacy Kirk of Culloden told CNN affiliate WSAZ. "We had bathed, cooked and everything right before the news came on (with the water warning)."

More than 20 lawsuits had already been filed, and a Charleston judge ordered the company at the source of the leak, Freedom Industries, and West Virginia American to preserve all relevant documents and physical evidence Monday.

Absorbent booms lowered into the Elk River to contain the spill are coming out clean of any contaminants and without any odor, suggesting that the material has stopped leaking into the river, said Mike Dorsey, chief of the Department of Environmental Protection's Homeland Security and Emergency Response group.

He said the agency is sending pumping equipment to the site to help deal with heavy rain expected soon in a bid to prevent any contamination from escaping from the site in runoff.

No problems have been detected with fish kills or other effects on wildlife, Huffman said.

Dorsey said earlier that the chemical leaked through a 1-inch hole in the wall of a storage tank owned by Freedom Industries, which supplies products for the coal mining industry. It moved through the soil into the river.

Officials don't know exactly when the leak began, but they don't think it was long before Thursday morning, when it was first reported.

Freedom Industries President Gary Southern said two Freedom employees noticed material leaking from a storage tank into a dike about 10:30 a.m. Thursday. They contacted authorities and began the cleanup process, including hauling away the chemical still in the tank and vacuuming some from the nearby ground, he said.

C.W. Sigman, deputy emergency manager for Kanawha County, said the tank appeared to be "antique." He told CNN on Saturday that the company "didn't appear to understand the magnitude of the incident at the time."

"I never got a good indication from the plant folks how bad the leak was, how much was going to the river, anything else. It was probably a little ways into the incident before we realized how bad it was getting into the river."

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# Greenwire

# W.Va. spill restarts debate over federal oversight

By Jason Plautz, E&E reporter

Published: Monday, January 13, 2014

A chemical plant leak that has left 300,000 West Virginia residents unable to drink tap water for four days has reignited the debate over government regulation of chemical facilities.

The U.S. Chemical Safety Board has dispatched a team to Charleston to investigate the leak from a Freedom Industries chemical plant that has polluted the Elk River. The Occupational Safety and Health Administration and U.S. Attorney's Office in Charleston have also opened investigations.

But advocates say the spill -- and the fact that emergency responders seem to lack a thorough understanding of either the plant or the spilled chemical -- highlights the inadequate supervision of the nation's chemical plants.

A leak was discovered Thursday at a Freedom Industries tank storing 4-methylcyclohexane methanol (MCHM), a chemical used to scrub coal of impurities, just a mile north of the intake for a water treatment plant. The estimated 7,500-gallon leak left nine counties without water for drinking or bathing (*see related story*).

*The Charleston Gazette* reported that even though the state was aware that the Freedom Industries plant was storing high levels of MCHM and other chemicals, the plant had not been inspected since 1991. Federal inspectors from OSHA had never been to the plant, according to federal records.

The Chemical Safety Board had also recommended to West Virginia in 2011 that it create a program to prevent releases and chemical accidents in the Kanawha Valley, which hosts several chemical plants. The recommendation was the result of a CSB investigation into a 2008 explosion that killed two at a Bayer CropScience plant.

But the state didn't start the program, saying it lacked the expertise and with supporting groups saying the state was best served with its own existing regulations.

West Virginia Gov. Earl Ray Tomblin (D) said over the weekend that he will work with state regulators and legislators to develop a plan that would tighten regulation of chemical storage in the state, saying "we have to look at them to make sure this kind of incident does not happen again."

An explosion at a fertilizer plant in West, Texas, last April that killed 14 people and wounded

150 others shone a spotlight on chemical security issues after it was revealed that federal regulators had not visited the West Fertilizer Co. and the company hadn't reported storing high levels of the explosive ammonium nitrate. The aftermath brought new legislation aimed at forcing chemical plants to develop safety plans and report hazardous substances, as well as a White House executive order mandating that U.S. EPA, the Department of Homeland Security, OSHA and others find ways to improve site security.

But there's been little action taken to shore up what even CSB Chairman Rafael Moure-Eraso deemed a "patchwork" of regulations.

An aide for the Senate Environment and Public Works Committee said today the panel was investigating the spill and is "planning further oversight of the issues."

Further confounding the response is the lack of knowledge about MCHM. A Material Safety Data Sheet says that the substance can result in skin or eye irritation and that it could be harmful if inhaled or ingested but does not have any available information on chronic hazardous effects. Other information from EPA or other federal bodies is unavailable.

"What is particularly maddening and outrageous is that no one -- not local or state officials, not the company that owns the storage tank, not the federal government -- can say anything even close to definitive about what risk the chemical poses to people, even in the short-term, let alone over time," said Environmental Defense Fund senior scientist Richard Denison in a post on his blog.

At issue, he said, were the failures of the 1976 Toxic Substances Control Act that have left EPA without the ability to test and regulate most chemicals in commerce. MCHM was in commerce when TSCA was passed and was thus presumed to be safe and has not been subject to intense scrutiny.

"While accidents happen, of course, the tragedy is compounded by the fact that much of the impact of this spill could have been avoided had basic safety information on this chemical been available," Denison said.

TSCA reform is on the agenda for the EPW Committee this year, but it's unclear whether a bipartisan proposal will move or will garner the support of the environment and public health groups that are pushing for more regulation.

The Sierra Club's Beyond Coal campaign director, Mary Anne Hitt, said the spill "pulls the curtain back on the coal industry's widespread and risky use of dangerous chemicals and is an important reminder that coal-related pollution poses a serious danger to nearby communities."

"Coal mining communities are faced with the dangers of water pollution from coal mining and pollution every day," Hitt said in a statement. "Americans, and the people of West Virginia, deserve greater accountability and transparency about coal industry practices."

# Bloomberg News Service

## West Virginia Spill Sparks Drive for Tougher Regulations

*By Mark Niquette, Jim Snyder and Mark Drajem - Jan 14, 2014*

A chemical spill that left 300,000 people in West Virginia unable to drink their water is reviving calls for more stringent regulation of thousands of chemical storage sites in the U.S., especially those near water supplies.

The Freedom Industries Inc. complex in Charleston that leaked was subject to a patchwork of federal and state regulations that allowed hazardous materials to be stored less than two miles upstream from a treatment facility for drinking water. Its tanks hadn't been inspected since 1991, according to Senator [Jay Rockefeller](#), a West Virginia Democrat.

"Our legislature is in session, so the legislature should take action," Rockefeller said. "But if they don't, then we have to get Congress all over it."

Residents in nine West Virginia counties were ordered not to drink, cook or bathe with municipal water after about 7,500 gallons of a chemical used in coal processing leaked Jan. 9 from a tank near the Elk River, upstream of a treatment plant for the West Virginia division of American Water Works Co.

Officials began lifting the ban yesterday in zones starting with Charleston, the state capital, after testing found levels of the chemical 4-methylcyclohexane methanol falling below one part per million. Federal authorities "do not anticipate any health effects from these levels," the company said in a statement. It recommended residents flush water pipes and appliances such as ice makers to purge any of the chemical.

"We're getting back to normal, stage by stage," Senator [Joe Manchin](#), a West Virginia Democrat, said today on [MSNBC](#). "I'd say by tomorrow everything should be back up and running."

### **Chlorine, Gas**

There are potentially tens of thousands of storage tanks in communities around the U.S. filled with chlorine, natural gas and other materials and states are primarily responsible for their safety, said Sheldon Krinsky, an environmental policy professor at [Tufts University](#) in Medford, [Massachusetts](#).



Federal laws should require more rigorous testing of hazardous chemicals to ensure they don't pose health risks, Krinsky said.

"They are riding blind by saying, 'OK, if we can get it down to one part per million that should be safe enough,'" Krinsky said in a phone interview. "But they don't really know."

House Democrats on the Energy and Commerce Committee yesterday asked Republicans to hold a hearing "to examine the regulatory gaps that this incident has exposed in the nation's toxic chemical control laws."

### **House Action**

Representatives Henry Waxman of California and Paul Tonko of New York said there should be a review of why the law allowed the chemical, known as MCHM, involved in the West Virginia spill to go untested for almost 40 years.

"We should not have to wait for a major contamination event to learn the most basic information about a toxic chemical in commerce," Waxman and Tonko wrote Representative John Shimkus, an Illinois Republican and chairman of the subcommittee.

The House energy committee is "actively monitoring the federal investigation and working to fully obtain the facts surrounding situation," Charlotte Baker, a Republican spokeswoman, said in response to the Democrats' letter.

The American Chemistry Council, a Washington-based lobbying group whose members include Eastman Chemical Co. (EMN) and Dow Chemical Co. (DOW), said federal, state and local agencies should improve their coordination to ensure current laws are enforced.

### **Industry Reaction**

"Essentially we think a good place to start would be to see if the current regulations are being followed or being implemented properly," said Scott Jensen, a spokesman, in an e-mail. "And if not, we should focus on finding ways to improve implementation, which we think could probably be done through better coordination and communication."

Federal authorities, including the U.S. Chemical Safety Board and the Justice Department, opened probes into the spill.

"If our investigation reveals that federal criminal laws were violated, we will move rapidly to hold the wrongdoers accountable," Booth Goodwin, the U.S. attorney for the Southern District of West Virginia, said yesterday in a statement. "Our drinking water is not something you can take chances with, and this mess can never be allowed to happen again."

Erin Brockovich, whose activism against chemical contamination inspired a movie named after her, last night criticized Freedom Industries' actions.

“It ought to be the same as if you assault somebody in a bar, you are going to jail,” she told a forum in Charleston.

### **Upstream Pollution**

While federal laws like the Safe Water Drinking Act require utilities to assess potential upstream pollution threats, it gives them little power to force fixes to minimize the risk, said Erik Olson, an attorney who specializes in water and health issues at the [Natural Resources Defense Council](#).

He said the split in regulatory responsibilities can leave loopholes that accidents like the spill in West Virginia expose. “There is virtually no accountability here,” Olson said in a phone interview.

More information is needed about the risks of chemicals on the market and regulators need more authority to take action, such as ordering storage tanks be placed away from water sources, said Andy Igrejas, director of Safer Chemicals, Healthy Families, a Washington coalition of health and safety groups pushing for tighter rules.

“This kind of disaster really does show you what all these things really mean,” Igrejas said in a telephone interview. “We don’t know enough, and we don’t know it quickly enough, about a chemical that could cause the drinking water for 300,000 people to be taken offline.”

### **Storage Tanks**

West Virginia doesn’t require inspection of storage tanks with chemicals such as the one that leaked, and there should be such regulations in place, said Larry Zuspan, who runs the local emergency planning committee in Charleston.

Zuspan said he didn’t know the storage tank was even there until the spill.

“For that magnitude of product that’s stored there, and where it was, it’s on a waterway, yeah, I think that’s going to require some inspections,” Zuspan, administrator of the Kanawha Putnam Emergency Planning Committee, said by phone.

The state is preparing an inventory of similar facilities in the state where there is no manufacturing or other activity that would require a permit, said Randy Huffman, secretary of the West Virginia Department of Environmental Protection. Officials also will develop legislation for regulatory changes, including setbacks for facilities, he said.

“It gives you enough distance between the potential risk and the vulnerable asset to be able to go in and to respond with some kind of remediation or some kind of emergency response,” Huffman told reporters yesterday in Charleston.

### **Nitro Facility**

Along the Kanawha River, about 14 miles downstream from the spill site, residents of the town of Nitro are beginning to come to grips with what the chemicals sitting next door mean to their safety.

Closely held Freedom Industries initially trucked the chemicals from its tanks to those at a second facility it owns in Nitro, called Poca Blending. At the ramshackle grounds of Poca yesterday, where abandoned old Saabs sat fenced in at the end of a gravel drive, the sickly sweet smell of 4-methylcyclohexane methanol hung in the air.

As tanker trucks were hooked up to loading hoses, the members of the fire department of Nitro were busy up the road handing out federally-shipped cases of water bottles. Jeff Elkins, Nitro's fire chief, said he hadn't paid much attention to what was being stored at the facility near the river -- until now.

Once the water emergency ends, "we're going to look into it to see what they've got there," Elkins said in an interview. "I'd like to know" if 4-methylcyclohexane methanol is still being stored there, he said.

### **Bayer, Praxair**

To be sure, forcing chemical plants or storage facilities to move away from rivers would be no easy task. Along the Kanawha River are chemical plants of [Praxair Inc. \(PX\)](#) and [Bayer AG \(BAYN\)](#) that dwarf the size and complexity of the Freedom Industries' facility.

And it isn't just location that matters. The Freedom Industries plant in Charleston was so old that its owners were looking to shut it down before the spill, according to state officials. The Poca Blending plant in Nitro is only a decade old. "We've never had any trouble at Poca," Elkins said.

The two lessons from the West Virginia spill are to be more vigilant about ensuring the structural integrity of tanks holding hazardous chemicals near bodies of water and to focus more resources on detection and monitoring, said James Salzman, a professor of law and environmental policy at [Duke University](#).

### **Detecting Contaminants**

The spill exposes a weakness in the nation's system for guarding against contaminated water because while it's impossible to pre-treat for every harmful chemical, there must be more emphasis on detecting unexpected contaminants, he said.

"When you get a large spill of chemicals that aren't supposed to be there, that is a soft underbelly," Salzman said in a telephone interview. "It's a real challenge. In a world where public budgets are tight, you've got to make choices."

The leak was detected by neighbors who smelled a licorice-like odor beginning at 8:15 a.m. on Jan. 9. State officials ordered the 14 above-ground storage tanks on the site emptied to prevent further spills.

The chemicals flowed through a hole of about an inch, Mike Dorsey, head of the West Virginia Department of Environmental Protection homeland security office, has said.

A message left with a plant spokeswoman seeking comment wasn't returned.

### **Company Apology**

Gary Southern, president of Freedom Industries, based in Charleston, apologized for the spill on Jan. 10 and said the company was working with state and federal officials. The company, formed in 1986, supplies chemicals to the steel, cement and coal-mining industries, including agents that deep freeze, treat water or control dust, according to its website.

It completed a four-way merger nine days before the leak was discovered. It combined with Etowah River Terminal LLC and Poca Blending LLC, state records show. Freedom also merged with Delaware-based Crete Technologies LLC, the records show.

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# **Wilmington News Journal**

## **Environmental groups' Delaware City Refinery crude-by-rail challenge rejected**

By Jon Offredo

A state appeals board rejected an attempt by two environmental groups to challenge the Delaware City Refinery's growing crude-by-rail operation, saying the subject matter was outside their jurisdiction.

Nancy Shevock, chair of the Environmental Appeals Board, said she could not comment on Monday's unanimous decision, but a written decision would be provided within 90 days.

Kenneth Kristl, who represents The Sierra Club and the Delaware Audubon, said he and his clients were disappointed with the rulings.

"This is a complicated issue, but we look forward to reading the board's analysis of why it reached the decision it did and then we'll assess our options and those options will likely involve an appeal," said Kristl, who also directs the Environmental and Natural Resources Law Clinic at

Widener University.

The Sierra Club and the Delaware Audubon asked the Environmental Appeals Board last year to determine whether state officials wrongly ignored the Coastal Zone Act when regulators approved PBF Energy's construction of an off-loading complex for crude oil rail tankers along the Delaware River.

Attorneys for the refinery and for the Department of Natural Resources and Environmental Control argued Monday that the EAB lacks jurisdiction to hear the case, since the challenges ultimately focus on a Coastal Zone Act dispute ordinarily handled by a different panel. That board, the Coastal Zone Industrial Control Board, heard arguments on the issue in July and concluded the environmental groups lacked standing to appeal. The coastal zone board's decision was appealed to Superior Court and is pending.

The challenge dismissed by the Environmental Appeals Board Monday was filed at the same time as the appeal of the Coastal Zone Industrial Control Board's decision. The challenge brought to the EAB was done in the event the environmental groups lost their appeal in Superior Court.

Monday's dismissal further complicates the groups' search for a legal venue to hear their case.

"We're not asking for multiple opportunities, we're just asking for one shot," Kristl said. "And the position that the refinery and DNREC want to say is, 'Sorry, you don't get any shot.'"

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